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THE ADVANTAGES OF ICT ON THE WORLD ECONOMY

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ABSTRACT

This article provides information and necessary sources and statistics about the development of ICT in recent years, its impact on the global economy, benefits and benefits in the field of commerce, health care, as well as in the macro and micro economy.

KEYWORDS

ICT, global economy, commerce, industry, social benefits, economic sustainability.

INTRODUCTION

The ICT industry—including telecommunications operators, computer and software producers, electronic equipment manufacturers—is playing an increasingly important role in the global economy. It created approximately 5 percent of total GDP growth between 2003 and 2008, and it represented 5.4 percent of world's GDP in 2008. That share is expected to reach 8.7 percent by 2020.¹ Because of its size and the nature of its products, the industry has a notable

role to play in encouraging economic growth and contributing to other social goods, including improving education and healthcare access and services. Furthermore, recent McKinsey research shows that the ICT industry can potentially contribute to reducing worldwide CO₂ emissions by 15 percent in 2020—an enormous contribution—but we will focus here on the economic and social contributions of the industry.² ICT enables economic growth by broadening the reach of

technologies such as high-speed Internet, mobile broadband, and computing; expanding these technologies itself creates growth, and the fact that technologies make it easier for people to interact and make workers more productive creates additional benefits. McKinsey estimates, for instance, that just one action—bringing mobile broadband levels in emerging markets up to those of more mature markets—could add between US\$300 and US\$420 billion to the world’s GDP and 10 to 14 million direct and indirect jobs in areas such as equipment manufacturing and outsourcing/offshoring services. ICT’s role in enabling economic growth has become more significant as governments are investing to stem the effects of the global financial crisis. As US President Barack Obama noted in January 2009, “Increased broadband spending, electronic medical records, green energy investments, and new computers for schools and libraries are all smart ways to keep America competitive while also creating new jobs and spending.”³ And UK Prime Minister Gordon Brown has likened his government’s efforts to extend the country’s digital infrastructure to “the roads and the bridges and the railways that were built in previous times to stimulate the economy.”⁴ They are far from alone—Korea, Rep. (Korea) has long been a leader in broadband investment, and today countries from Greece to Malaysia have committed large amounts of money to develop their ICT sectors. Beyond economic benefits, the ICT industry is uniquely positioned to help build a more socially sustainable future. McKinsey’s most recent consumer survey shows that the ICT industry is perceived to be among the top four industries in terms of its potential contribution to society behind only healthcare, agriculture, and utilities. The importance of ICT increased more than any other sector since 2006,⁵ showing that consumers place growing importance on the industry as social contributor.

Governments have also realized that ICT can offer social benefits, so they have started large programs to improve the level of health, education, and government services they offer to their citizens. For example, as we will explore later in greater depth, ICT is making an important contribution to health delivery: doctors can directly access their patients’ medical records from anywhere. Creating these economic and social benefits will require not only large investments and commitment from different stakeholders but also changes to existing regulatory frameworks, compromises between governments and industries, and strong public engagement.

Investing in ICT to drive economic sustainability. Countries have started to invest in ICT because they know that the sector can have a substantial positive impact on social and economic sustainability. Investing in ICT is a key driver of economic development for emerging and developed markets alike.

In fact, investing in ICT can help countries increase their annual GDP growth by 0.6–0.7 percent on average, on an annual basis, for each increase of 10 percent in household penetration, as several studies have shown. This impact is created by a combination of direct and indirect effects on the economy. Direct effects come from investments in infrastructure (by government and operators), increased availability and penetration of services, and increased employment in the ICT sector. A good example of direct effects is seen in Korea, where growth in the ICT sector was 43 percent between 1999 and 2003; in the same period, it was negative in Japan, less than 1 percent in Malaysia, and 5 percent in Singapore.⁹ Korea drove this growth by pushing forward a national vision to develop its ICT sector; this required a concerted effort between public and private parties and large subsidies from the state. The country invested more than US\$700 million

in subsidies between 1995 and 1997 to link around 15,000 institutions in 80 major areas of the country with high-speed fiber networks. The direct effects of ICT can also be seen in bringing ICT services to remote, underserved areas. In this case, direct investments will bring job creation and extra spending that benefit the population in these areas. Telefónica, for example developed the Intégrame initiative in Peru, which aims at extending ICT services via public-private partnerships. As a result of these partnerships, mobile, landline, Internet access, and television services are now offered using wireless technology at better tariffs to 62,300 people in 180 locations throughout the country. Further, Intégrame has opened new markets for Telefónica and increased the speed of social and economic development through the inclusion of rural communities.¹¹ ICT's indirect effects include productivity gains for businesses, increased foreign direct investments as a consequence of a country being ICT-enabled, the creation of innovative industry clusters such as knowledge cities, and higher exports of ICT services such as outsourcing. The Indian Tobacco Company, an Indian conglomerate, illustrates ICT productivity gains for an economy. Their agri-business division, one of India's largest exporters of agricultural commodities, created e-Choupal in 2000 as a supply chain management system to reach farmers. These have traditionally sold their products through inefficient physical marketplaces where they are forced to take whatever price is offered because they have limited access to information on market prices. E-Choupal, a kiosk with computers and Internet access, is a virtual marketplace where farmers can sell their products (e.g., soy, tobacco, wheat, shrimp) directly to producers, without paying fees to traders or commissions to agents. The tool also provides information in local languages about the weather, market prices, and farming best practices, as well as general news. According to Mr Singh, a farmer in the

northern state of Uttar Pradesh, annual incomes in Kurthia have risen from up to Rs50,000 (~ 800) before e-Choupal to Rs100,000–Rs120,000 (~ 1,600–1,900).¹² E-Choupal has been useful not only for users but also for ICT, because it has created profitable direct access to farmers and raw materials without intermediary fees. As of 2009, e-Choupal had reached 4 million Indian farmers in 40,000 villages through 6,500 kiosks; the goal is to reach 10 million farmers by 2012.

ICT's impact on government services. Early breakthroughs in e-government—such as the use of ICT to provide and improve public-sector services, transactions, and interactions—have enabled government organizations to deliver better services more efficiently. In many countries, more than 70 percent of taxpayers now file taxes electronically, for example, and many other transactions—ranging from renewing drivers' licenses and paying parking tickets to managing government benefits—can be conducted online. Citizens have a much easier and faster access to government services. In Singapore, for example, citizens can buy replacement identity cards online by submitting digital passport-sized color photographs and scanned copies of existing identity cards. Also, when citizens are changing their residential address, they need to submit just one single report and all government agencies, educational institutions, and selected private companies will automatically be notified. A customer perception survey conducted by the Ministry of Finance and Info comm in Singapore showed that, in 2008, 85 percent of respondents made transactions with government electronically, and 88 percent were satisfied, for four main reasons: it is easy to find information, it is user friendly, the transaction is fast, and it is easy to complete.²¹ In Malta, to take another example, citizens can purchase online copies of personal documents for themselves and family members (e.g., birth, marriage, and death certificates) dating back to the 1880s. Benefits for governments

that are offering these types of services are huge. “As recent research shows,” noted Eurochambres Secretary-General Arnaldo Abruzzini in November 2009, “electronic procedures will lead to more bidders and thus increased competition, which could create savings in the order of 150 billion EUwide.”

Unleashing the potential of ICT requires investments. The economic and social benefits of ICT are clear. However, this impact could be significantly increased if the penetration of ICT, including mobile phones, broadband, and PCs, was expanded. Figure 5 shows the coverage of these technologies in the different regions of the world. Developed countries have room to continue to expand their current penetration of these technologies, but also—and possibly more pressing—emerging economies need to close the gap with more advanced economies to reap the benefits of ICT. If they can, ICT will likely bring them even more significant benefits than it will to developed economies. Increasing the penetration levels of high-speed broadband, mobile, and PCs was in developed and developing countries will be extremely costly and is not likely to be profitable for ICT companies alone. For example, in the EU15 countries, McKinsey estimates that the capital investments required to bring high-speed, fixed broadband networks will be as much as 250–300 billion over the next couple of years.³⁰ But in this same region, the industry will generate some 250 billion in cash flows over the next five years.³¹ That means that the industry would need to invest all available cash to build these networks, leaving nothing for maintenance or other types of network upgrades, or anything else. At its current investment rates, the industry would take some 15 years to roll out new networks. The situation is obviously even more unbalanced in emerging economies, where penetration levels are lower—and consequently the necessary investments would be

higher—than in Europe. The estimates above indicate that governments, at least in Europe, will need to invest large amounts of money to enable their countries with ICT. Making these investments work will require a concerted approach among all industry stakeholders.

Supporting the ICT strategy financially. Initial government financial support to a country's ICT strategy is crucial since economic benefits and demand for some of the new services will necessarily be unclear for industry players. Many countries in the world have made significant investments in the past couple of years.

The industry's role: Deploying state-of-the-art networks and creating innovative products. The ICT industry—more specifically, ICT companies—should re-examine its potential and take advantage of its significance in order to create social, economic, and environmental benefits. This is not an industry that should be looking for profit alone; it is an industry that is part of the solution for many countries that face key challenges such as climate change or economic development for their people. Other industry stakeholders, such as governments and regulators, will start to expect more and more from the industry. Failing to participate in helping countries and people reap the benefits of ICT can actually put the industry's current business models at risk, if, for instance, unfavorable regulations were to be passed. Industry stakeholders can do this by concentrating on what they do best: deploying state-of-the-art networks that all citizens can access and developing innovative products that help countries increase their social, economic, and environmental sustainability. If done strategically, many sustainability activities create financial value for the ICT industry. Other recent McKinsey research shows that these activities can

create financial value along the four dimensions of value the market typically assesses: growth, return on capital, risk management, and management quality.

Conclusion: ICT is an increasingly important industry economically, and—because of the nature of its products and services—one that can create significant benefits for society as well. Increasing the reach of ICT creates economic growth and enables better healthcare, education, and government services, among many other social benefits. And all this can happen while ICT reduces its carbon emissions. The key to reaping ICT's economic and social benefits is cooperation among the industry, regulators, and government policymakers. Government has a central role to play: in countries that have succeeded with ICT investments, government has provided both a clear strategy and crucial initial funding. We hope that a better understanding of ICT benefits will encourage all stakeholders to work together on the next generation of ICT investment.

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